



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VI

ALLIED BANK TOWER AT FOUNTAIN PLACE

1445 ROSS AVENUE

DALLAS, TEXAS 75202

June 4, 1987

Mr. Sidney Evans
Assistant Project Manager
Technical Assurance
Department of Energy
Strategic Petroleum Reserve
Project Management Office
900 Commerce Road East
New Orleans, Louisiana 70123

Dear Mr. Evans:

Thank you for the opportunity to review the Phase II Confirmation CERCLA Report. Below, we offer the following comments:

Bayou Choctaw

1) Please submit well logs and construction details along with the depths of each well.

Big Hill

1) Due to the presence of cyanide in the Big Hill wells a reactivity test should be performed in accordance with § 261.23(a)(5) to determine if it exhibits the reactivity characteristic of Hazardous Waste. The memo outlines this procedure.

2) The wells logs and construction details should be furnished to adequately analyze the data. The report is very vague in describing the location of the wells and there depths.

Bryan Mound

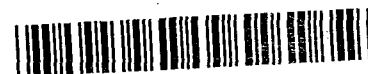
1) The report states that the tarry area investigation will be treated as a non-hazardous waste and removed. Are there any plans to remove the two previously discovered tarry areas?

Your EPA representative for sites located in Louisiana, New Mexico, Arkansas, and Oklahoma is Ms. Suzette Turner. Mr. John Meyer will be your representative for sites located in Texas. If you have any questions or comments, please contact them at (214) 655-6730.

Sincerely,

Robert E. Hanneschlager
Robert E. Hanneschlager, P.E.
Chief
Superfund Enforcement Branch

9109407



Cavern No. 10:

Cavern No. 10 was drilled during the period from May 20, 1947 to July 8, 1947. The top of the caprock was reported to have been encountered at 552 feet with the top of the salt reported at 694 feet. The original total depth of this well was 1,942 feet. Sonar caliper surveys conducted in 1973 indicate a cavern top of 990 feet and a cavern base floor of 1,902 feet. The 1973 calipers indicate a volume of 6.42 MM/BELS.

The figure on Page IX-53 of this report shows the location of Cavern No. 10 in relation to the salt mass and the other wells in the evaluated property. It can be seen from this drawing that Cavern No. 10 is on the extreme central western flank of the appraised property. Presented on Pages IX-55 and IX-57 are two cross sections of the salt mass showing the relative location of Cavern No. 10 to the flank of the dome and the other caverns. The first of these cross sections, "C-C" shows the lateral extent of this cavern in an east-west direction while the second section, "F-F" transverses the cavern in a north-south plane.

Casing records indicate that 18-5/8-inch conductor pipe was set at a depth of 538 feet and cemented with 750 sacks, and 13-3/8-inch production pipe was set at a depth of 989 feet and cemented with 700

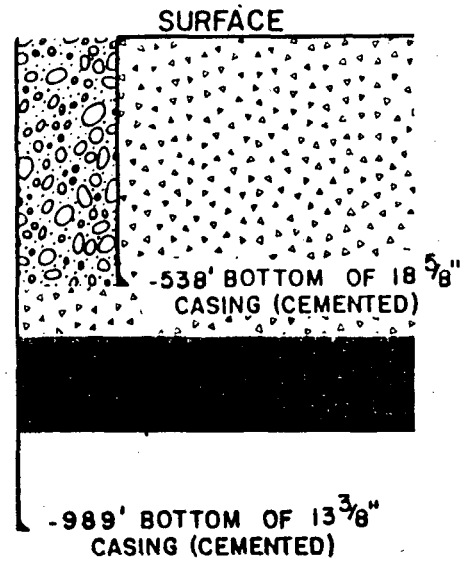
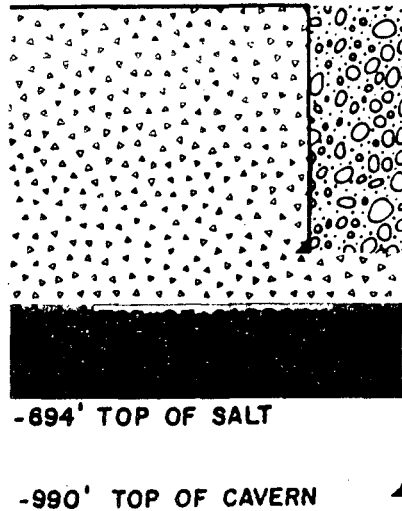
sacks during the original completion in 1947. The figure on Page IX-103 illustrates the reported casing program of this cavern in relationship to the caprock, salt mass, and top of cavern as of the time of the DOE acquisition.





The well records report that a high resolution temperature log indicated anomalies present at the interval from 630 feet to 638 feet. These anomalies were believed to be indicative of temperature variations outside of the casing and not necessarily the result of casing damage at that time. In 1975 leaching of this cavern was discontinued by Allied and brine returns were lost. In an effort to determine the path of these lost returns, cement bond log and sonar caliper logs were run. Cement bond log results indicated decreased pipe bonding from 660 feet to 820 feet. The sonar caliper log indicated a chimney present in the west/southwesterly direction. From this sonar caliper log it was believed that the cavern had been washed into the caprock or adjacent Miocene sediments.


As of the effective date of this appraisal, this well had been classified as being "temporarily abandoned".

After analysis of the presently available data, it is the appraiser's conclusion that this cavern may not have washed into the adjacent salt flanks but in all probability failed as a result of

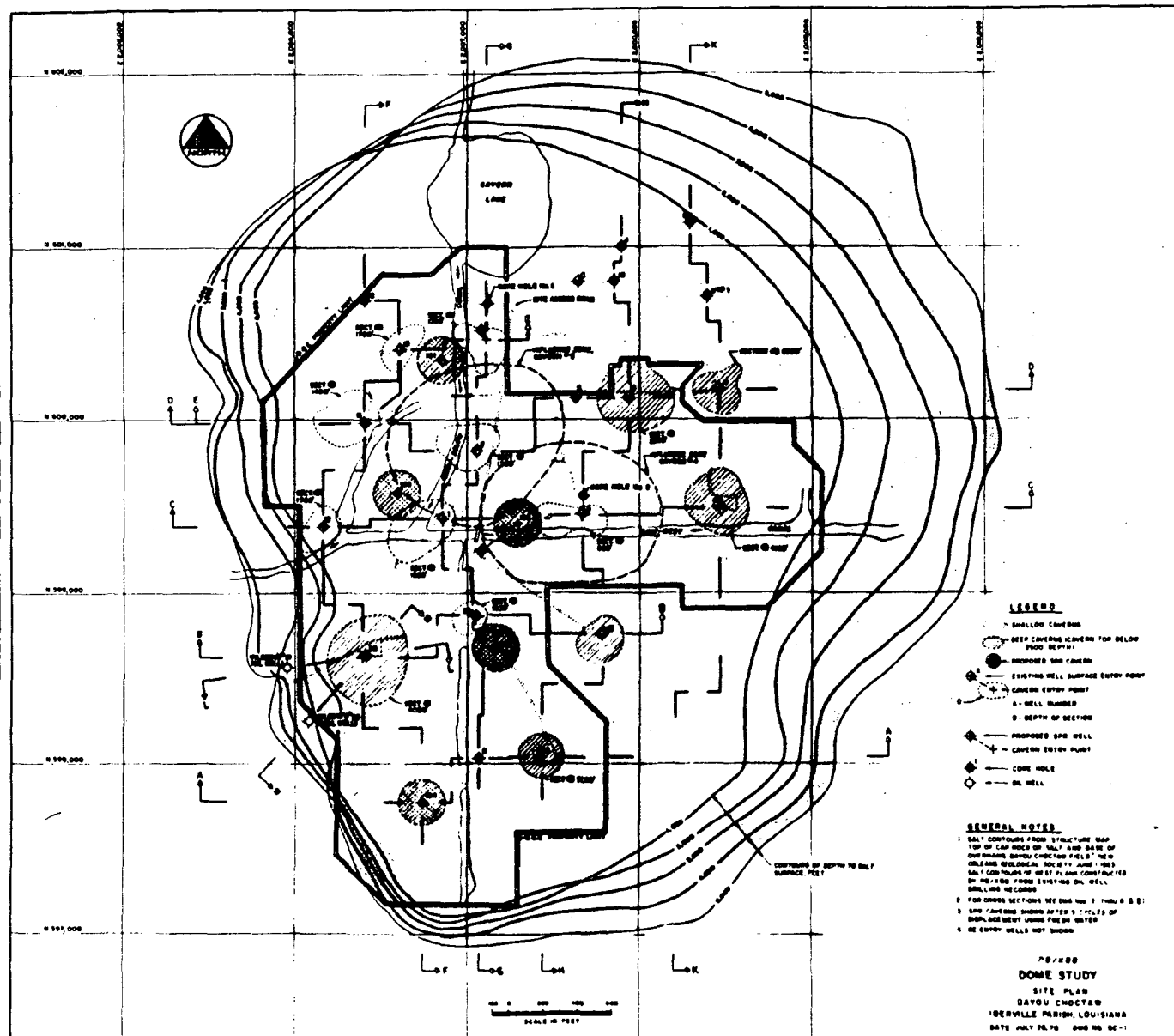
WELL



-  = SAND, CLAY, & SHALE
-  = CEMENT
-  = CAPROCK
-  = SALT

KEPLINGER and Associates, Inc. — <small>INTERNATIONAL GEOPHYSICAL CONSULTANTS</small>	
<small>2020 LEMAY AVENUE HOUSTON, TEXAS 77058</small>	
BAYOU CHOCTAW EXISTING CASING PROGRAM WELL No. 10	

communications into the caprock via casing seat or casing corrosion failures. It was not possible to ascertain from the presently available data if these conditions could be economically corrected; accordingly, it is the opinion of the appraisers that Cavern No. 10 at the time of acquisition, would have been classified by a knowledgeable buyer as being unusable for either the storage of liquid hydrocarbons or the production of brine. In addition, it is our opinion that this cavern represents a potential future economic liability if this well bore is to be properly plugged and abandoned.

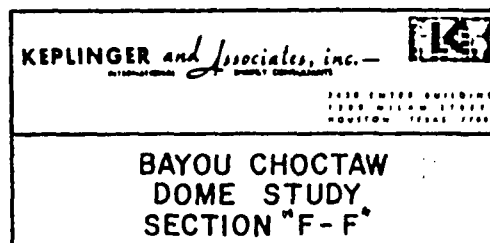


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2000 THREE BUILDING
1000 WILSON STREET
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BAYOU CHOCTAW DOME STUDY



Allied 9

Allied 9 well was drilled in 1944 to a depth of 2013 feet but was abandoned before leaching began when the casing collapsed due to local subsidence.

Cavern 10

Cavern 10 was drilled in 1947 to a depth of 1942 feet. The present top of the cavern is at a depth of 990 feet and is overlain by over 300 feet of salt (Figure 6.33). The cavern was abandoned when brine returns were lost. This may have resulted from the cavern being leached through the salt to the surrounding sediments. PB/KBB, (1978c) also suggests that alternatively, the loss of pressure may be due to a leak in the casing seat. The volume of the cavern is 6.4 million barrels.

Cavern 11

Cavern 11 was drilled to a depth of 1,928 feet in 1947. Based on the 1980 sonar survey, the cavern top is at a depth of 1,030 feet and is overlain by approximately 350 feet of salt (Figure 6.34). The volume of the cavern is 9.5 million barrels. The cavern is currently inactive. The cavern has enlarged substantially to the west and upward. The cavern roof-to-span ratio is slightly greater than 1 which is considered stable. (See preceding Cavern 3 section for a discussion of the pressure communication between Caverns 3, 11 and 13).

Allied 12

Allied 12 well was drilled in 1947 to a depth of 2020 ft. The well collapsed and was abandoned before leaching began.

Cavern 13

Cavern 13 is a shallow cavern which was drilled to a depth of 1,915 feet in 1948. The top of the cavern is at a depth of 1,103 feet. Data from the 1977 sonar survey indicates a cavern volume of 4.31 million barrels. Because of the dip of the top of the salt surface (Figure 6.35), the thickness of the salt roof varies north to south from 270 to 190 feet. Assuming an average width of about 230 feet, the cavern roof-to-span ratio is approximately 1 and so this cavern is considered stable. (See Cavern 3 section for discussion of the pressure communication between Caverns 3, 11 and 13).

Cavern 15

Cavern 15 was drilled in 1953 to a depth of 3,357 feet. The top of the cavern (Figure 6.36) is at a depth of 2,597 feet which is 1,960 feet below the top of the salt. The volume of the cavern, calculated from

JUN 04 1987

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*USDOE SPR West Hackberry
LA 289 003 2582*

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Sincerely,

JUN 23 1992

REORGANIZED

Robert E. Hanneschlager, P.E.
Chief
Superfund Enforcement Branch

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